EXHIBIT C: MITIGATION, MONITORING, AND REPORTING PROGRAM

The following environmental mitigation measures were incorporated into the Conditions of Approval for this project in order to mitigate identified environmental impacts to a level of insignificance. Project design features have also been included in the table. A completed and signed checklist for each measure indicates that this measure has been complied with and implemented, and fulfills the City's monitoring requirements with respect to Assembly Bill 3180 (Public Resources Code Section 21081.6).

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
Aesthetics				
Design Features				
AES-1	Demolition debris shall be removed in a timely manner for off-site disposal.	City Engineer, Construction Contractor	During construction	
AES-2:	Tree and vegetation removal shall be limited to those depicted on construction drawings.	City Engineer, Construction Contractor	During construction	
AES-3:	Construction lighting shall be shielded or directed away from adjacent residences.	City Engineer, Construction Contractor	During construction, Post-construction	
AES-4:	All roadway features (signs, pavement delineation, roadway surfaces, etc) and structures within State and private rights-of-way will be protected, maintained in a temporary condition, or restored.	City Engineer, Construction Contractor	During construction, Post-construction	
AES-5:	Aboveground components such as pump stations should be designed with exterior fencing, paint, and vegetative screening to reduce aesthetic impacts in visually sensitive areas.	City Engineer, Construction Contractor	During construction, Post-construction	
Air Quality				
Design Features				
AQ-1:	Water or dust control agents shall be applied to active grading areas, unpaved surfaces, and dirt stockpiles as necessary to prevent or suppress particulate matter from becoming airborne. All soil to be stockpiled over 30 days shall be protected with a secure tarp or tackifiers to prevent windblown dust.	City Engineer, Construction Contractor	During construction	
AQ-2:	Covering/tarping will occur on all vehicles hauling dirt or spoils on public roadways unless additional moisture is added to prevent material blow-off during transport.	City Engineer, Construction Contractor	During construction	
AQ-3:	Grading and other soil handling operations shall be suspended when wind gusts exceed 25 miles per hour. The construction supervisor shall have a hand-held anemometer for evaluating wind speed.	City Engineer, Construction Contractor	During construction	

MITIGATION MEASURE OR DESIGN FEATURE		STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
AQ-4:	Dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadway shall be swept or vacuumed and disposed of at the end of each workday to reduce resuspension of particulate matter caused by vehicle movement. During periods of soil export or import, when there are more than six trips per hour, dirt removal from paved surfaces shall be done at least twice daily.	City Engineer, Construction Contractor	During construction	
AQ-5:	Disturbed areas shall be revegetated as soon as work in the area is complete.	City Engineer, Construction Contractor, Biological Monitor	Post-construction	
AQ-6:	Electrical power shall be supplied from commercial power supply wherever feasible, to avoid or minimize the use of engine-driven generators.	City Engineer, Construction Contractor	During construction	
AQ-7:	Air filters on construction equipment engines shall be maintained in clean condition according to manufacturers' specifications.	City Engineer, Construction Contractor	During construction	
AQ-8:	The construction contractor shall comply with the approved traffic control plan to reduce non-project traffic congestion impacts. Methods to reduce construction interference with existing traffic and the prevention of truck queuing around local sensitive receptors shall be incorporated into this plan.	City Engineer, Construction Contractor	Pre-construction, During construction	
AQ-9:	Staging areas for construction equipment shall be located as far as practicable from residences.	City Engineer, Construction Contractor	During construction	
AQ-10:	Trucks and equipment shall not idle for more than 15 minutes when not in service.	City Engineer, Construction Contractor	During construction	
Biological Resources				
Mitigation Measures				
Twenty-six project components require mitigation measures (refer to Tables S-1 and S-2 of the Final Program EIR). The determination of final mitigation for each project component shall first consider the project design features identified below. Mitigation would then follow the guidelines discussed below but also shall be based on project-level resource evaluation. The project-level evaluation would be more detailed and may result in a finding of no significant impact, and in that event, would not require mitigation. However, at this program level of analysis, each of the 26 components identified as having a significant impact to biological resources would require mitigation. Following project-level resource mapping and identification of precise implementation methods and location, significant adverse impacts to biological resources can generally be avoided or mitigated through incorporation of one or all of the following measures: **BIO-1:** Avoidance and minimization of impacts through project redesign or implementation of construction restrictions including seasonal restrictions (these		City Planner, Biologist	Pre-construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
	measures would likely need to be ensured through construction monitoring adjacent to sensitive resource areas);			
BIO-2:	Conservation of like habitat near to project impact area through dedication of a conservation easement and management endowment; and/or	City Planner, Biologist	Post-Construction	
BIO-3	Enhancement, restoration, and/or creation of habitats affected by the project with methodologies approved by the City and resource agencies. Additional discussions of biological mitigation measures are described in Section 4.3.4 of the Final Program EIR.	City Planner, Biologist	Post-Construction	
Wetlands and Waters				
Design Features				
BIO-4:	Native vegetation disturbance shall be limited to the construction zones as indicated by flagging or fencing.	City Engineer, Construction Contractor, Biological Monitor	Pre-construction, During construction	
BIO-5:	Prior to the commencement of construction, the limits of grading shall be clearly delineated by a survey crew prior to brushing, clearing, or grading. The limits shall be by a biological monitor before initiation of construction grading. The contractor(s) shall be responsible to mitigate impacts to sensitive biological resources beyond those identified in this report or any subsequent reports that occur as a direct result of construction activities.	City Engineer, Construction Contractor, Biological Monitor	Pre-construction, During construction	
BIO-6:	Activities shall be prohibited within drainages (other than those that may occur within an approved construction zone), including staging areas, refueling areas, equipment access, and disposal or temporary placement of excess fill.	City Engineer, Construction Contractor, Biological Monitor	During construction	
BIO-7:	Construction in or adjacent to sensitive areas shall be appropriately scheduled to avoid sensitive and/or breeding seasons and to minimize potential impacts to biological resources.	City Engineer, Construction Contractor, Biological Monitor	During construction	
BIO 8:	Erosion and siltation into off-site areas during construction shall be minimized. The contractor shall prepare an erosion control plan in accordance with applicable local code requirements. The construction supervisor shall be responsible for ensuring that the erosion control plan is developed and implemented.	City Engineer, Construction Contractor, Biological Monitor	Pre-construction, During construction	
BIO-9:	Appropriate post-construction fencing and signage shall be installed to prohibit access and avoid potential impacts to sensitive resources adjacent to project sites.	Construction Contractor	Post-construction	
BIO-10:	To the extent feasible, all construction activities adjacent to coastal sage scrub habitat shall occur between August 15 and March 1.	City Engineer, Construction Contractor	Pre-construction, During construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
BIO-11:	If construction activities must extend beyond March 1, and the activities are adjacent to or within 500 feet of a gnatcatcher nest, then noise reduction measures (*e.g.*, temporary noise and line-of-sight barriers) shall be incorporated.	City Engineer, Construction Contractor, Biological Monitor, Acoustician	During construction	
BIO-12:	Lighting shall be diverted away from any native habitat and shall consist of low-sodium or similar lighting equipped with shields to focus light downward onto the appropriate subject.	City Engineer, Construction Contractor, Biological Monitor	During construction	
BIO-13:	Unless authorized as part of construction, existing roads or disturbed areas shall be used to access the project sites.	City Engineer, Construction Contractor	During construction	
BIO-14:	Topsoil from the project sites shall be stockpiled within the construction sites where feasible. If topsoil from off-site construction must be stockpiled, it shall be stockpiled in disturbed areas. Stockpile areas shall be delineated on the grading plans and reviewed by a qualified biologist.	City Engineer, Construction Contractor, Biological Monitor	Pre-construction, During construction	
BIO-15:	On-site staging areas shall be used where feasible. Staging areas shall be delineated on the grading plans and reviewed by a qualified biologist. If staging areas outside the construction footprint are used, then they shall be surveyed for biological resources prior to their use.	City Engineer, Construction Contractor, Biological Monitor	Pre-construction, During construction	
BIO-16:	The use of native plants to the greatest extent feasible in the landscape areas adjacent mitigation or open space areas (including wetland and riparian areas) will be considered during project-level review of applicable project components of the Master Plan Updates. The lead agencies will not plant, seed, otherwise introduce invasive exotic plant species to the landscaped areas adjacent and/or near the mitigation/open space area or wetland and riparian areas. Exotic plant species not be used include those species listed on Lists A and B of the California Exotic Pest Plant Council's "Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999." This list includes such species as pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, and capeweed.	Biological Monitor, City Planner, Construction Contractor	Pre-construction, During construction	
Cultural Resources				
Mitigation Measures				
CULT-1:	Obtain permission from private landowners to survey the fields and yards in order to determine presence/absence of cultural resources. If cultural resources are located then mitigation measure [CULT-2] is recommended	Archaeological Monitor	Pre-construction	
CULT-2:	Test those sites that have not yet been tested so a determination of significance can be made. If the resource is determined to be significant, mitigate through avoidance. If avoidance is not feasible, then mitigation through a data recovery program (see mitigation measure [CULT-3]).	Archaeological Monitor	Pre-construction	
CULT-3:	If site avoidance, the preferred mitigation measure, is not feasible, then a data	Archaeological Monitor	Pre-construction	

MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
recovery program should be completed to recover a large enough sample of cultural material so that information of importance in addressing regional research questions will not be irretrievable lost through impacts.			
CULT-4: Provide a qualified archaeological monitor during construction so that buried cultural resources can be identified in the field. Upon identification, the resource should be tested (mitigation measure [CULT-2]) to determine significance with appropriate mitigation measures as necessary	City Engineer, Construction Contractor, Archaeological Monitor	Pre-construction	
CULT-5: An additional mitigation measure is intended for many sites within the study area that are located within developed areas. For these sites, a monitoring program, rather than a test program, is recommended if construction is to occur within or adjacent to the site. Components of such a monitoring program would include, but not be limited to the following: **Prior to Preconstruction (Precon) Meeting** 1. Planning Department Plan Check a. Prior to the first Precon Meeting, the Environmental Compliance Officer/Planner (ECO/P) of the Planning Department shall verify that the requirements for Archaeological Monitoring and Native American monitoring, if applicable, have been noted on the appropriate construction documents. 2. Submit Letter of Qualification to the Planning Department a. Prior to the first Precon Meeting, the applicant shall provide a letter of verification to the ECO/P stating that a qualified Archaeologist has been retained to implement the monitoring program. 3. Records Search Prior to Precon Meeting a. At least thirty days prior to the Precon Meeting the qualified Archaeologist shall verify that a records search has been completed and updated as necessary and be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. Verification includes, but is not limited to, a copy of a confirmation letter from South Coast Information Center or, if the search was in-house, a letter of verification from the Archaeologist stating that the search was completed. **Precon Meeting** 1. Monitor Shall Attend Precon Meetings a. Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the Archaeologist, Construction Manager and/or Grading Contractor. The qualified Archaeologist shall attend any grading related Precon Meetings to make comments and/or suggestions concerning the	City Engineer, City Planner, Construction Contractor, Archaeological Monitor	Pre-construction, During construction, Post-construction	

MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
Archaeological Monitoring program with the Construction Manager and/or Grading Contractor. 2. Identify Areas to be Monitored a. At the Precon Meeting, the Archaeologist shall submit to ECO/P a copy of the site/grading plan (reduced to 11x17) that identifies areas to be monitored as well as areas that may require delineation of grading limits. **During Construction** 1. Monitor Shall be Present During Grading/Excavation The qualified Archaeologist shall be present full-time during grading/excavation of native soils and shall document activity via the Consultant Monitor Record. This record shall be sent to the ECO/P, as appropriate, each month. a. Monitoring Trenches Will Include Mainline, Laterals, and all Appurtenances. Monitoring of trenches is required for the mainline, laterals, services and all other appurtenances that impact native soils one foot deeper than existing as detailed on the plans or in the contract documents identified by drawing number or plan file number. It is the Construction Manager's responsibility to keep the monitors up-to-date with current plans. b. Discoveries *Discovery Process* In the event of a discovery, and when requested by the Archaeologist, or the Principal Investigator (PI) if the Monitor is not qualified as a PI, the Construction Manager (CM), as appropriate, shall be contacted and shall divert, direct or temporarily halt ground disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The PI shall also immediately notify ECO/P of such findings at the time of discovery. c. Determination of Significance The significance of the discovered resources shall be determined by the PI. For significant archaeological resources, a Research Design and Data Recovery Program shall be prepared, approved by the agency and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume. d. Minor Discovery Process for Pipeline Projects For all projects: The following is a summary of the criteria and procedures related to the evaluation of small cultural resource deposits during excavation for pipelines.			

MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
2. Coordination and Notification a. Archaeological Monitor shall notify PI, CM and ECO/P, as appropriate 3. Criteria used to Determine if it is a Small Cultural Resource Deposit a. The deposit is limited in size both in length and depth; and, b. The information value is limited and is not associated with any other resources; and, There are no unique features/artifacts associated with the deposit. c. A preliminary description and photographs, if available, shall be transmitted to ECO/P. d. The information will be forwarded to the Planning Department for consultation and verification that it is a small historic deposit. 4. Procedures for documentation, curation and reporting The following constitutes adequate mitigation of a small historic deposit to reduce impacts due to excavation activities to below a level of significance. a. 100 percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of sidewalls, recovered, photographed after cleaning and analyzed and curated. b. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact. c. The Final Results Report shall include a requirement for monitoring of any future work in the vicinity. 5. Human Remains If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) as follows: a. Notification 1) Archaeological Monitor shall notify the PI, CM and ECO/P. 2) The PI shall notify the County Coroner after consultation. b. Stop work and isolate discovery site 1) CM/ECO/P, as appropriate, shall stop work immediately in the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the County Coroner in consultation with the PI concerning the origin of the remains and the cause of death.			

MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
2) The County Coroner, in consultation with the PI, shall determine the need for a field investigation to examine the remains and establish a cause of death. 3) If a field investigation is not warranted, the PI, in consultation with the County Coroner, shall determine if the remains are of Native American origin. c. If Human Remains are Native American 1) The Coroner shall notify the Native American Historic Commission (NAHC). (By law, ONLY the Coroner can make this call.) 2) NAHC will identify the person or persons it believes to be the Most Likely Descendent (MLD). 3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment, with appropriate dignity, of the human remains and any associated grave goods (PRC 5097.98). d. If Human Remains are not Native American 1) The PI shall contact the NAHC and notify them of the historical context of the burial. 2) NAHC will identify the person or persons it believes to be the MLD. 3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment of the human remains (PRC 5097.98). 4) If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with ECO/P, the landowner, the NAHC and the Museum of Man. e. Disposition of Human Remains The landowner, or his authorized representative, shall reinter the Native American human remains and any associated grave goods, with appropriate dignity, on the property in a location not subject to further subsurface disturbance, IF: 1) The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 24 hours after being notified by the Commission; OR; 2) The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner… 6. Notification of Completion The Archaeologist shall notify the ECO/P, in writing of the end date of monitoring.			

MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
Post Construction 1. Handling and Curation of Artifacts and Letter of Acceptance a. The Archaeologist shall be responsible for ensuring that all cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the Planning Development; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate. b. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with ECO/P and the Native American representative, as applicable. 2. Final Results Reports (Monitoring and Research Design and Data Recovery Program) a. Within three months following the completion of monitoring, two copies of the Final Results Report (even if negative) and/or evaluation report, if applicable, which describes the results, analysis, and conclusions of the Archaeological Monitoring Program (with appropriate graphics) shall be submitted to ECO/P for approval. b. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the Final Results Report. 3. Recording Sites with State of California Department of Park and Recreation The Archaeologist shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Results Report.			
PALEO-1: Projects that may impact paleontologically sensitive areas (i.e., formations that have been assigned high or moderate paleontological resource sensitivity), will require paleontological monitoring onsite during all phases of initial and subsequent cutting of undisturbed formational sediments in order to make salvage collections of any invertebrate, vertebrate or paleobotanical fossils that are encountered or unearthed.	Paleontological Monitor	During Construction	

MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
PALEO-2: Collected fossils shall be cleaned and/or prepared to a point of identification, and then curated to museum standards (cataloging of locality and specimen data, numbering, identification, labeling) before being deposited in an appropriate public facility (or facilities) that can provide permanent archival storage (so that specimens are available for future scientific study). A report detailing the mitigation shall be prepared, even if negative, which will include necessary maps, graphics, and fossil lists to document the paleontological monitoring program.	Paleontological Monitor	During construction Post-construction	
PALEO-3: Paleontological monitoring will be required for all exposures of the Santiago Formation and of Pleistocene marine terrace and estuarine deposits. A museum collections and records search will precede any field work, in order to more precisely define any areas that might need particular attention during monitoring of construction related activities. Monitoring is not necessary in areas mapped as granitic (tonalite, gabbro) or metavolcanic rock.	Paleontological Monitor	During construction	
PALEO-4: These general guidelines shall be followed when planning for a project component which requires paleontological monitoring: a. The paleontologist or paleontological monitor shall attend any preconstruction/pregrading meetings to consult with City/District staff and the excavation contractor. b. The paleontologist or paleontological monitor shall be onsite full-time during excavation into previously undisturbed formations. The monitoring time may be decreased at the discretion of the paleontologist in consultation with the City/District. c. If significant fossils are encountered, the paleontologist shall have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains, and shall immediately contact the City/District. The determination of significance shall be at the discretion of the paleontologist. d. Construction activities in the area of discovery shall resume upon notification by the paleontologist that fossil remains have been recovered. The paleontologist shall be responsible for preparation of fossils to a point of identification and submittal of a letter of acceptance from a local qualified curation facility. The paleontologist shall record any discovered fossil sites at the San Diego Natural History Museum. e. Within three months following termination of the paleontological monitoring program, the contractor shall provide a monitoring letter report (with	Paleontological Monitor, City Planner, City Engineer, Construction Contractor	Pre-construction During construction Post-construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
	appropriate graphics) to the City/District summarizing the results (even if negative), analyses and conclusions of the above program.			
Geology and Soils				
Design Feature				
GEO-1:	All segments of the Master Plan Updates will be constructed in accordance with Uniform Building Code Standards and accepted standards for public works construction. These standards pertain to protection against seismic activity, settlement, liquefaction, and other integrity issues.	City Engineer, Construction Contractor	During construction	
Hazards and Hazardous Materials				
Design Features				
HAZ-1:	Fire safety information shall be disseminated to construction crews during regular safety meetings. Fire management techniques shall be applied during project construction as deemed necessary by the lead agency and depending on-site vegetation and vegetation of surrounding areas.	City Engineer, Construction Contractor	Pre-construction, During construction	
HAZ-2:	A brush management plan will be incorporated during project construction by the City or its contractors, as necessary. Construction within areas of dense foliage during dry conditions will be avoided, when feasible. In cases where avoidance is not feasible, necessary brush fire prevention and management practices will be incorporated. Specifics of the brush management program will be determined as site plans for the project are finalized.	City Engineer, Construction Contractor	During construction	
HAZ-3:	A site-specific analysis of hazardous materials sites would be conducted as part of the project prior to construction by the City or its contractors. The analysis would assess hazardous materials sites pursuant to Government Code Section 65962.5 and other federal and state databases of known hazardous materials sites. If hazardous waste sites are located in the immediate vicinity of project components, the site would be avoided or the project components would be rerouted. Because of the minimal information available at this program level of analysis, it is assumed that all hazard and hazardous materials impacts are mitigable to a level below significance.	City Engineer, Construction Contractor	Pre-construction	
HAZ-4:	The use, storage, transportation, and disposal of chemicals and use of petroleum fuel during construction and operation of the project is regulated by the County Department of Hazardous Waste Management, and will be conducted according to all applicable state, federal and local regulations.	Construction Contractor	During construction	
HAZ-5:	In order to ensure that the project does not cause a significant hazard to the public or the environment through release of or transport of hazardous materials during construction and operation, the City or its contractors, and the Districts will			

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
	implement the following project design features: • Pipelines of the project components would be constructed with polyvinyl chloride (PVC) pipe, or other material, which is highly resistant to rupture. • Pump stations included as part of the project, and stations that will service the proposed project shall be designed or constructed with safety features, including an emergency generator in case of electrical failure, and sufficient sewage detainment capacity in the event of generator and/or pump mechanism failure to allow time for repair and/or emergency conveyance of the sewage. Should emergency leaks or spills occur, the Sewer Prevention and Response Plan for both City Districts will be implemented.	City Engineer, Construction Contractor City Engineer, Construction Contractor	Pre-construction, During construction Pre-construction, During construction	
HAZ-6:	Prior to construction, the City shall prepare a traffic control plan in accordance with the cities of Carlsbad, Oceanside, and San Marcos traffic control guidelines that will specifically address construction traffic during construction of project components within the public right-of-ways of the affected jurisdiction(s). The traffic control plan will include signage and flagmen when necessary to allow the heavy equipment to utilize residential streets. The traffic control plan will also include provisions for coordinating with local school hours and emergency service providers regarding construction times.	Construction Contractor	Pre-construction	
Hydrology and Water Quality				
Mitigation Measures				
HYDRO-1:	For projects proposed with the 100-year floodplain, a scour analysis of the floodplains associated with Buena Vista and Agua Hedionda creeks shall be completed during final project design to determine the likelihood for washout of a pipeline or project facility during a flood event. Design and construction specification of the pipeline will incorporate recommendations from the report to ensure that potential impacts from scouring do not comprise the integrity of the pipeline. The list of projects located within the 100-year floodplain is found in Tables S-1 and S-2 of the Final Program EIR.	City Planner	Pre-construction	
HYDRO-2:	Dewatering activities will be conducted in accordance with standard regulations of the RWQCB. A dewatering permit will be obtained.	City Engineer, Construction Contractor	During construction	
HYDRO-3:	Discharge of groundwater will require a NPDES General Storm Water Permit that will include provisions for implementation of BMPs to reduce potential water quality impacts.	City Engineer, Construction Contractor	Pre-construction, During construction	
HYDRO-4:	Material stockpiled during construction shall be placed such that interference with onsite drainage patterns will be minimized or avoided. During rain events,	City Engineer, Construction Contractor	During construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
	stockpiles shall be covered with impermeable materials such as tarps in order to allow flow from the construction site to occur without excessive sediment loading.			
HYDRO-5:	Potential water quality impacts to 303(d) listed water bodies (Agua Hedionda Creek and Lagoon, Buena Vista Lagoon) will be assessed as part of project-level water quality analyses for each individual project component with a potential to affect these water bodies. The list of project components that would potentially affect the 303(d) water bodies is found in Tables S-1 and S-2 of the Final Program EIR.	City Planner	Pre-construction	
Design Features				
HYDRO-6:	The construction contractor, in consultation with the lead agency, shall be responsible for filing all required notices with the Regional Water Quality Control Board (RWQCB), preparing the Storm Water Pollution Prevention Plan (SWPPP), and implementing required Best Management Practices (BMPs). The construction manager shall be responsible for monitoring and maintenance of BMPs until the construction area has been permanently stabilized to ensure that they are working properly.	Construction Contractor	Pre-construction, During construction, Post-construction	
HYDRO-7:	BMPs shall include both sediment control measures to prevent rainfall from contacting exposed soil surfaces, and erosion control measures (*e.g.*, gravel bags) to prevent eroded material from leaving construction areas, especially from flat graded areas, in accordance with the required erosion control plan.	City Engineer, Construction Contractor	During construction	
HYDRO-8:	A construction spill contingency plan shall be prepared in accordance with County Department of Environmental Health regulations and retained on site by the construction manager. If soil is contaminated by a spill, the soil shall be properly removed and transported to a legal disposal site.	City Engineer, Construction Contractor	Pre-construction, During construction	
HYDRO-9:	If groundwater is encountered and dewatering is required, then the groundwater shall be disposed of by pumping to the sanitary sewer system or discharging to the storm drain system according to the conditions of the appropriate discharge permit.	Construction Contractor	During construction	
HYDRO-10:	The lead agencies will consider using pervious or semi-pervious surfaces where possible to reduce the increase in the velocity of peak flows.	City Engineer, Construction Contractor	During construction	
HYDRO-11:	For all potential impacts to natural drainages (i.e., pre-development hydrology), BMPs on-site shall be used to fully mitigate for project-related contaminants in the surface flows prior to their discharge to streams.	City Engineer, Construction Contractor	During construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
Noise				
Mitigation Measures				
NOISE-1:	The projects designated for a noise study in Tables S-1 and S-2 of the Final Program EIR shall be evaluated in the design and environmental Initial Study phases to determine if potential noise impacts in excess of City Noise Control Ordinance limits or the City's Noise Guidelines Manual would result. If such a potential exists, a noise study shall be conducted including recommendations for mitigation. Mitigation shall be designed to assure that noise produced by operation of the facility shall not cause the limits in the Noise Control Ordinance or Noise Guidelines Manual to be exceeded, and any such mitigation shall be required as part of the project.	City Planner	Pre-construction	
NOISE-2:	A site-specific acoustical analysis will be required for any project located within 500 feet of any residential dwellings, which will ensure compliance with the City's construction noise and outdoor noise standards. It is assumed that potentially significant impacts will be mitigated by future mitigation measures developed at the project level of analysis.	City Planner	Pre-construction	
Design Features				
NOISE-3:	Heavy equipment shall be repaired at sites as far as practical from nearby residences.	Construction Contractor	During construction	
NOISE-4:	Construction equipment, including vehicles, generators and compressors, shall be maintained in proper operating condition and shall be equipped with manufacturers' standard noise control devices or better (*e.g.*, mufflers, acoustical lagging, and/or engine enclosures).	Construction Contractor	During construction	
NOISE-5:	Construction work, including on-site equipment maintenance and repair, shall be limited to the hours specified in the noise ordinance of the affected jurisdiction.	Construction Contractor	During construction	
NOISE-6:	Electrical power shall be supplied from commercial power supply, wherever feasible, in order to avoid or minimize the use of engine-driven generators.	Construction Contractor	During construction	
NOISE-7:	Staging areas for construction equipment shall be located as far as practicable from residences.	Construction Contractor	During construction	
NOISE-8:	Operating equipment shall be designed to comply with all applicable local, state, and federal noise regulations.	Construction Contractor	During construction	
NOISE-9:	If lighted traffic control devices are to be located within 500 feet of residences, the devices shall be powered by batteries, solar power, or similar sources, and not by an internal combustion engine.	Construction Contractor, City Engineer	During construction	
NOISE-10:	The Districts or their construction contractors shall provide advance notice,	City Engineer,	During construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
	between two and four weeks prior to construction, by mail to all residents or property owners within 300 feet of the alignment. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more that 7 days occur, an additional notice shall be made, either in person or by mail. The Districts shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur.	Construction Contractor		
NOISE-11:	The Districts shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise and other construction disturbance. The Districts shall also establish a program for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with the information above.	City Engineer, Construction Contractor	Pre-construction, During construction	
Transportation and Traffic				
Mitigation Measures				
TRANS-1:	The Districts will obtain an encroachment permit from respective local and state authorities, as required prior to the commencement of the construction phase within the affected right-of-ways. This process will include submittal of project plans, review of plans by the respective authorities, possible revisions of the plans relative to concerns brought forth by the issuing agency and issuance of the respective permit. Potential permitting agencies include Caltrans, North County Transit District (NCTD), Cities, and the County of San Diego. All roadway features (signs, pavement, delineation, roadway surface) and structures with the State right-of-way shall be protected, maintained in a temporary condition, or restored.	Construction Contractor	Pre-construction	
TRANS-2:	A traffic control plan (TCP) shall be prepared prior to construction and implemented for all affected roadways. It will be prepared to ensure that access will be maintained to individual properties and businesses, and that emergency access will not be restricted.	Construction Contractor	Pre-construction	
TRANS-3:	The TCP will show all signage, striping, delineate detours, flagging operations, and any other procedures which will be used during construction to guide motorists safely through the construction zone and allow for a minimum of one lane of travel. The TCP will also include provisions for coordinating with local emergency service providers regarding construction times and locations of lane closures as well as specifications for bicycle lane safety. During construction, the Districts shall ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access to and from public facilities such as	Construction Contractor, City Engineer Construction Contractor, City Engineer	Pre-construction, curing construction During construction	

	MITIGATION MEASURE OR DESIGN FEATURE	STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
	public utility stations and community centers will be provided. If normal access to these facilities is blocked by construction alternative access shall be provided. Should this occur, the Districts shall coordinate with each facility's administrators in preparing a plan for alternative access.	Construction Contractor, City Engineer	During construction	
	During construction, the Districts shall ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access to commercial/ industrial establishments during regular business hours. If normal access to business establishments is blocked, alternative access shall be provided. Should this occur, the Districts shall coordinate with the businesses in preparing a plan for alternative access.	Construction Contractor, City Engineer	During construction	
	During construction, the Districts shall maintain continuous vehicular and pedestrian access to residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access shall be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the construction contractor shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.	Construction Contractor, City Engineer	During construction	
	Methods to maintain safe, vehicular and pedestrian access include the installation of temporary bridge or steel plates to cross over unfilled excavations. Whenever sidewalks or roadways are removed for construction, the contractor shall place temporary sidewalks or roadways promptly after backfilling until the final restoration has been made.			
	The TCP shall include provisions to ensure that the construction contractor's work in any public street does not interfere unnecessarily with the work of other agencies such as emergency services providers, mail delivery, school buses, waste services, or transit vehicles.			
TRANS-4:	During project design, the Districts shall coordinate with each jurisdiction, as well as its own transit division which may be affected by the project to determine the exact limits of project construction. All work proposed within the State right-of-way shall be dimensioned in metric units. The coordination effort shall be followed by specific measures to avoid conflicts resulting from other construction projects occurring within the direct vicinity of the project and within the same time period.	Construction Contractor, City Engineer	Pre-construction, during construction	
	Coordination with the following entities shall occur in conjunction with the proposed project: NCTD, Caltrans, Carlsbad Traffic Engineering, Oceanside Traffic Engineering, and San Marcos Traffic Engineering.	Construction Contractor	Pre-construction, During construction	

MITIGATION MEASURE OR DESIGN FEATURE		STAFF MONITOR	TIMING OF COMPLIANCE	DATE OF COMPLIANCE
Design Features				
TRANS-5:	Prior to construction, the City shall prepare a traffic control plan in accordance with the City of Carlsbad traffic control guidelines that will specifically address construction traffic during construction of project components within the public right-of-ways of the affected jurisdiction. The traffic control plan will include signage and flagmen when necessary to allow the heavy equipment to utilize residential streets. The traffic control plan will also include provisions for coordinating with local school hours and emergency service providers regarding construction times.	Construction Contractor	Pre-construction	